DETAILED ACTION

This communication is responsive to Appeal Brief filed 09/30/09, and a telephonic interview on 12/28/09.

Claims 1-46 are pending in this application. Claims 36-39, 43 are independent claims.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Applicant's representative, Mr. Kevin Mason, on December 28, 2009.

Cancel claims 1-3

The application has been amended as follows:

1.   (Cancelled).

2.   (Cancelled).

3.   (Cancelled).

4.　　　　　　(Currently Amended) The method of claim ~~1~~ 36, wherein there are a plurality of entities, each entity corresponding to one or more attributes, and wherein the one or more results comprise indications of which entities of the plurality of entities have attributes satisfying the one or more rules.

5.　　　　　　(Currently Amended) The method of claim ~~1~~ 36, wherein there are a plurality of entities, each entity corresponding to one or more attributes, and wherein the one or more results comprise indications of which entities of the plurality of entities have attributes resulting in a change in status of the evaluation of the one or more rules between a first evaluation of the one or more rules and a second evaluation of the one or more rules.

6.　　　　　　(Currently Amended) The method of claim ~~1~~ 36, wherein the communication network comprises a wireless portion, the entity comprises a wireless device, and the entity communicates within the wireless portion of the communication network.

7.　　　　　　(Currently Amended) The method of claim ~~1~~ 36, wherein:

there are a plurality of entities subscribed to the communication network; and

the step of evaluating is performed by a plurality of nodes in the communication network, each node evaluating rules over a subset of the entities.

8.   The method of claim 7, wherein the plurality of entities are registered with the communication network so as to be able to communicate with portions of the communication network.

9.   (Currently Amended) The method of claim 4 36, further comprising the steps of associating a side effect with the one or more rules and performing the side effect if the one or more rules evaluate to a predetermined one of a plurality of states.

10.   (Currently Amended) The method of claim 4 36, further comprising the steps of:

          receiving a plurality of supplied rules;

          determining if evaluation of one or more given rules of the supplied rules produces one or more constant results for at least a selected time period; and

          preventing evaluation of the one or more given rules for the selected time period.

11.   The method of claim 10, wherein the step of preventing evaluation further comprises the step of removing the one or more given rules from the plurality of supplied rules.

12.   (Currently Amended) The method of claim ~~1~~ 36, wherein the step of determining one or more attributes of an entity comprises determining the location of the entity.

13.   (Currently Amended) The method of claim ~~1~~ 36, wherein the one or more attributes comprise a plurality of attributes, the plurality of attributes further comprising one or more of the following: a mobile station identification, a user identification, a subscriber class, a bearing, and a speed.

14.   (Currently Amended) The method of claim ~~1~~ 36, wherein the communication network comprises a plurality of nodes and wherein each of the plurality of nodes performs the steps of determining, evaluating, and performing one or more actions.

15.   The method of claim 14, wherein the one or more rules comprise a plurality of rules, wherein a plurality of entities are associated with the communication network, and wherein the method further comprises the step of communicating the plurality of rules to each of the nodes.

16.   The method of claim 15, wherein each of the nodes corresponds to a defined coverage region, and wherein the step of evaluating further comprises the step

of a given one of the plurality of nodes evaluating rules for entities in a defined coverage region corresponding to the given node.

17.   The method of claim 15, wherein each of the entities has a corresponding set of one or more rules, wherein a given one of the nodes determines which of the plurality of entities are within a coverage region corresponding to the given node, and wherein the given node performs the steps of determining one or more attributes of the entity, evaluating, and performing one or more actions for those nodes of the plurality of nodes that are within the coverage region and does not perform the steps of determining one or more attributes of the entity, evaluating, and performing one or more actions for those nodes of the plurality of nodes that are not within the coverage region.

18.   The method of claim 15, wherein a first node corresponds to a first defined coverage region, a second node corresponds to a second defined coverage region, a given entity has persistent data associated with the given entity, and the first node communicates the persistent data to the second node in response to the given entity leaving the first defined coverage region and entering the second defined coverage region.

19.   (Currently Amended) The method of claim ~~1~~ 36, wherein the step of performing one or more actions specified for the one or more rules further comprises

the step of sending one or more messages to an application based on the one or more results, the one or more messages corresponding to the one or more results.

20.   (Currently Amended) The method of claim 4 36, wherein the one or more rules correspond to a plurality of entities, the step of evaluating further comprises the step of evaluating the one or more rules for the plurality of entities to produce one or more results, wherein the one or more results comprise one or more indications as to which of the plurality of entities has attributes satisfying the one or more rules, and wherein the step of performing further comprises the step of communicating one or more messages having the one or more indications to an application.

21.   The method of claim 20, wherein the one or more indications comprise a subscriber position record for at least one of the entities meeting the one or more rules.

22.   (Currently Amended) The method of claim 4 36, wherein the one or more attributes further comprises a subscriber identification, and wherein the one or more rules correspond to one or more geographical regions or one or more subscriber identifications.

23.   (Currently Amended) The method of claim 4 36, wherein the step of performing, based on the one or more results, one or more actions specified for the one or more rules further comprises the step of communicating a rule-triggered event to the

application, wherein the rule-triggered event is specified for the one or more rules and corresponds to the entity.

24.   The article of manufacture of claim 37, wherein said one or more programs which when executed further implement the steps of:

determining one or more attributes of an entity, at least one of the attributes comprising location of the entity;

evaluating said one or more rules to produce one or more results, each of the one or more rules comprising one or more functions that operate on the one or more attributes of the entity; and

performing, based on the evaluation of the one or more results, one or more actions specified for the one or more rules, wherein at least one of the actions comprises communicating the one or more results to said application.

25.   The apparatus of claim 38, wherein the one or more processors are further configured:

to determine one or more attributes of an entity, at least one of the attributes comprising location of the entity;

to evaluate said one or more rules to produce one or more results, each of the one or more rules comprising one or more functions that operate on the one or more attributes of the entity; and

to perform, based on the evaluation of the one or more results, one or more actions specified for the one or more rules, wherein at least one of the actions comprises communicating the one or more results to said application.

26.   The apparatus of claim 25, wherein the one or more functions comprise a plurality of functions combined through logical operators.

27.   The apparatus of claim 25, wherein there are a plurality of entities, each entity corresponding to one or more attributes, and wherein the one or more results comprise indications of which entities of the plurality of entities have attributes satisfying the one or more rules.

28.   The apparatus of claim 25, wherein there are a plurality of entities, each entity corresponding to one or more attributes, and wherein the one or more results comprise indications of which entities of the plurality of entities have attributes resulting in a change in status of the evaluation of the one or more rules between a first evaluation of the one or more rules and a second evaluation of the one or more rules.

29.   The apparatus of claim 25, wherein the communication network comprises a wireless portion, the entity comprises a wireless device, and the entity communicates within the wireless portion of the communication network.

30.   The apparatus of claim 25, wherein:

          there are a plurality of entities subscribed to the communication network;

          the communication system comprises a plurality of nodes;

          the at least one computer system comprises a plurality of computer systems, each node communicating with one or more of the computer systems; and

          each computer system is adapted to evaluate rules over a subset of the entities.

31.   The apparatus of claim 25, wherein the processor is further configured:

          to receive a plurality of supplied rules;

          to determine if evaluation of one or more given rules of the supplied rules produces one or more constant results for at least a selected time period; and

          to prevent evaluation of the one or more given rules for the selected time period.

32.   The apparatus of claim 25, wherein the one or more attributes comprise a plurality of attributes, the plurality of attributes further comprising one or more of the following: a mobile station identification, a user identification, a subscriber class, a bearing, and a speed.

33.   The apparatus of claim 25, wherein the at least one computer system comprises a first plurality of computer systems, the communication network comprises a

second plurality of nodes, one or more of the nodes communicate with one or more of the computer systems, and each of the plurality of computer systems is adapted to determine, evaluate, and perform one or more actions.

34.   The apparatus of claim 25, wherein the one or more processors are further configured, when performing, to send one or more messages to an application based on the one or more results, the one or more messages corresponding to the one or more results.

35.   The apparatus of claim 25, wherein the one or more rules correspond to a plurality of entities, the one or more processors are further configured, when evaluating, to evaluate the one or more rules for the plurality of entities to produce one or more results, wherein the one or more results comprise one or more indications as to which of the plurality of entities has attributes satisfying the one or more rules, and wherein the one or more processors are further configured, when performing, to communicate one or more messages having the one or more indications to an application.

36.   (Currently Amended) In a communication network, a method for evaluating rules, the method comprising the steps of:

                receiving one or more rules from an application; ~~and~~

                sending a trigger to said application based on said one or more rules;

determining one or more attributes of an entity, at least one of the attributes comprising location of the entity;

evaluating said one or more rules to produce one or more results, each of the one or more rules comprising one or more functions that operate on the one or more attributes of the entity, wherein the one or more functions comprise a plurality of functions combined through logical operators and wherein each of the one or more functions evaluates to one of a plurality of states and wherein the rule evaluates to one of the plurality of states; and

performing, based on the evaluation of the one or more rules, one or more actions specified for the one or more rules, wherein at least one of the actions comprises communicating the one or more results to said application.

37. (Currently Amended) An article of manufacture for evaluating rules, the article of manufacture comprising:

a computer readable storage medium containing one or more programs which when executed implement the steps of:

receiving one or more rules from an application; and

sending a trigger to said application based on said one or more rules;

determining one or more attributes of an entity, at least one of the attributes comprising location of the entity;

evaluating said one or more rules to produce one or more results, each of the one or more rules comprising one or more functions that operate on the one or more

attributes of the entity, wherein the one or more functions comprise a plurality of functions combined through logical operators and wherein each of the one or more functions evaluates to one of a plurality of states and wherein the rule evaluates to one of the plurality of states; and

  performing, based on the evaluation of the one or more rules, one or more actions specified for the one or more rules, wherein at least one of the actions comprises communicating the one or more results to said application.

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38. (Currently Amended) In a communication network, an apparatus for evaluating rules, the apparatus comprising:

  at least one computer system comprising:

  one or more memories; and

  one or more processors coupled to the one or more memories, the one or more processors configured:

  receive one or more rules from an application; ~~and~~

  send a trigger to said application based on said one or more rules;

  determine one or more attributes of an entity, at least one of the attributes comprising location of the entity;

  evaluate said one or more rules to produce one or more results, each of the one or more rules comprising one or more functions that operate on the one or more attributes of the entity, wherein the one or more functions comprise a plurality of functions combined through logical operators and wherein each of the one or more

functions evaluates to one of a plurality of states and wherein the rule evaluates to one of the plurality of states; and

   perform, based on the evaluation of the one or more rules, one or more actions specified for the one or more rules, wherein at least one of the actions comprises communicating the one or more results to said application.

39.   (Currently Amended) In a communication network, an apparatus for evaluating rules, the apparatus comprising:

   at least one computer system comprising:

   one or more memories; and

   one or more processors coupled to the one or more memories, the one or more processors configured:

   receive one or more rules in one or more nodes; and

   reduce said one or more rules based on subscribers associated with one or more of said nodes, wherein the communication network comprises a plurality of nodes and wherein each of the plurality of nodes performs the steps of determining, evaluating, and performing one or more actions, wherein the one or more rules comprise a plurality of rules, wherein a plurality of entities are associated with the communication network, and wherein the method further comprises the step of communicating the plurality of rules to each of the nodes, wherein each of the entities has a corresponding set of one or more rules, wherein a given one of the nodes determines which of the plurality of entities are within a coverage region corresponding

to the given node, and wherein the given node performs the steps of determining one or more attributes of the entity, evaluating, and performing one or more actions for those nodes of the plurality of nodes that are within the coverage region and does not perform the steps of determining one or more attributes of the entity, evaluating, and performing one or more actions for those nodes of the plurality of nodes that are not within the coverage region.

40.   The apparatus of claim 39, wherein said rule reduction is based on a location of a node.

41.   The apparatus of claim 39, wherein said rule reduction is based on one or more attributes of one or more of said subscribers.

42.   The apparatus of claim 39, wherein said rule reduction is based on a movement of one or more of said subscribers.

43.   (Currently Amended) In a communication network, a method for evaluating rules, the method comprising the steps of:

          receiving one or more rules in one or more nodes; and

          reducing said one or more rules based on subscribers associated with one or more of said nodes, wherein the communication network comprises a plurality of nodes and wherein each of the plurality of nodes performs the steps of determining,

evaluating, and performing one or more actions, wherein the one or more rules comprise a plurality of rules, wherein a plurality of entities are associated with the communication network, and wherein the method further comprises the step of communicating the plurality of rules to each of the nodes, wherein each of the entities has a corresponding set of one or more rules, wherein a given one of the nodes determines which of the plurality of entities are within a coverage region corresponding to the given node, and wherein the given node performs the steps of determining one or more attributes of the entity, evaluating, and performing one or more actions for those nodes of the plurality of nodes that are within the coverage region and does not perform the steps of determining one or more attributes of the entity, evaluating, and performing one or more actions for those nodes of the plurality of nodes that are not within the coverage region.

44.   The method of claim 43, wherein said rule reduction is based on a location of a node.

45.   The method of claim 43, wherein said rule reduction is based on one or more attributes of said one or more of said subscribers.

46.   The method of claim 43, wherein said rule reduction is based on a movement of one or more of said subscribers.

Statement of Reasons for Allowance

Claims 4-46 are allowed.

The following is an examiner's statement of reasons for allowance.

The present invention is directed to a method for providing an improved, scalable techniques for sensing situations involving mobile entities and for responding to the sensed situations.

All independent claims 36-39, 43 recite, or similarly recite, in combination with the remaining elements:

sending a trigger to said application based on said one or more rules;

determining one or more attributes of an entity, at least one of the attributes comprising location of the entity;

evaluating said one or more rules to produce one or more results, each of the one or more rules comprising one or more functions that operate on the one or more attributes of the entity, wherein the one or more functions comprise a plurality of functions combined through logical operators and wherein each of the one or more functions evaluates to one of a plurality of states and wherein the rule evaluates to one of the plurality of states; and

performing, based on the evaluation of the one or more rules, one or more actions specified for the one or more rules, wherein at least one of the actions comprises communicating the one or more results to said application.

The closest prior art, Richton et al (US 6,650,902), show a similar wireless telecommunications syetem that uses location or position information to forward specific information to travelers. However, Richton fails to anticipate the above cited limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James K. Trujillo, can be reached at (571) 272-3677. The fax number to this Art Unit is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Miranda Le/
Primary Examiner, Art Unit 2159